

Dimock Groundwater Site – Summary of Lab Efforts

1/6/2012

Analytical Parameters

Table 1 from Sampling Plan is in-progress. Latest version is on I: directory

R3 lab – Metals, VOAs, SVOCs, Anions, TP, NO₂/NO₃, TDS/TSS, Alk, Glycols, Alcohols, O&G

R3 lab – Assessing LC/MS/MS capability to analyze for ethylene glycol and 2-methoxyethanol (ppb);
Assessing GC/MS (SVOCs) to add 1-methylnaphthalene

R9 lab – GRO/DRO, dissolved gases (methane/ethane)

R2 lab – MBAS

R6 lab – backup and tech assistance for alcohols

NAREL – Rad; Rn222 removed from list

Techlaw/T4 – micro, ISOTECH methods

Glycol/Alcohol Issues

LC/MS/MS – currently cannot see ethylene glycol and may have issue with 2-methoxyethanol. Jennie is shooting standard for 2-methoxyethanol on Monday and continuing work on ethylene glycol

GC/FTIR – method 8430 includes ethylene glycol so Sue G is testing with standard today

GC/FID – method 8015 – Adam will test the two on GC/FID for presence

GC/MS – 1-methylnaphthalene standard being ordered. Eric is testing to see if can run as 8270. Eric is also shooting a standard for 2-methoxyethanol on Monday. Extra acrylonitrile std for VOAs ordered.

Data/Reporting

Need to discuss with Rich the data/reporting needs. We are prepared to generate SEDD deliverables which would be consistent for all labs.

Would like R3 lab to be the hub for regional lab support – central location for data packages and communication; samples can be shipped directly to labs by field contractor; contact and address information being compiled today.

Coolers/Bottles

R3 lab can provide some coolers to use for this project but probably don't have enough supply of bottles without further purchases.

**TABLE 1 - 12/28/11
FIELD AND QC SAMPLING SUMMARY
DIMOCK RESIDENTIAL GROUNDWATER SITE
DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA**

Fort Meade Lab

Parameter/Method	Matrix	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD) ³
				Dup	Trip ¹ Blanks	Rinsate ^{1,2} Blanks	Field ¹ Blanks	MS/MSD	
Alkalinity (SM 2320B) (Total Hardness, HCO ₃ , CO ₃) (2320B, 2340B)	drinking water	60	0	6	0	0	5	0	71
Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)	drinking water	60	0	6	0	0	5	3	71
Anions, Chloride, Bromide, Fluoride, Nitrate/Nitrite as N, Orthophosphorus as P, Sulfate as SO ₄ (300.0)	drinking water	60	0	6	0	0	5	0	71
Glycols incl. 2-Butoxyethanol (8321 Modified)	drinking water	60	0	6	0	0	5	0	71
Ethylene Glycol (8015M)	drinking water	60	0	6	0	0	5	0	71
2-Methoxyethanol (8015B)	drinking water	60	0	6	0	0	5	0	71
Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Ti, U, V, K, Hg (200.8/245.1)	drinking water	60	0	6	0	0	5	6	71
Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Ti, U, V, K, Hg (200.8/245.1)	Filtered drinking	60	0	6	0	0	5	6	71
pH (9040C)	drinking water	60	0	6	0	0	5	0	71
Phosphorus, Total (365.1)	drinking water	60	0	6	0	0	5	0	71
Nitrate/Nitrite (353.2)	drinking water	60	0	6	0	0	5	0	71
Semi-Volatiles (TCL plus TICs) (CLP Trace plus TICs) (OLC03.2)	drinking water	60	0	6	0	0	5	3	71
1-methylnaphthalene (8270 or equivalent)	drinking water	60	0	6	0	0	5	0	71
Volatiles incl. Acrylonitrile (TCL plus TICs) (CLP Trace - 0.5 ug/L QL) (OLC03.2)	drinking water	60	0	6	1 per cooler	0	5	3	71 + Trip Blanks for Coolers
Oil & Grease (HEM) (1664A)	drinking	60	0	6	0	0	5	0	71
Solids, Total Dissolved (TDS) (2540C)	drinking	60	0	6	0	0	5	0	71
Solids, Total Suspended (TSS) (2540D)	drinking	60	0	6	0	0	5	0	71
Notes:									
Key:									
Bkgd = Background									
MS/MSD = Matrix Spike/Matrix Spike Duplicate									
CRQL = Contract-Required Quantitation limit.									
Dup. = Duplicate									
QA/QC = Quality assurance/quality control									
Sr = Strontium									

Contract No. EP-S3-10-14

DIM0187423

DIM0187425

TABLE 1 - 12/28/11
FIELD AND QC SAMPLING SUMMARY

DIMOCK RESIDENTIAL GROUNDWATER SITE
DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA

EPA Region 9 Lab

Parameter/Method	Matrix	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD) ³
				Dup	Trip ¹ Blanks	Rinsate ^{1,2} Blanks	Field ¹ Blanks	MS/MSD	
Dissolved Gases, Methane, Ethane, & Ethene (RSK-175)	drinking water	60	0	6	0	0	5	0	71
URO (801SM)	drinking	60	0	6	0	0	5	0	71
URO (801SM)	drinking	60	0	6	0	0	5	0	71
<p>Notes:</p> <p>1. This QA sample will be an aqueous matrix.</p> <p>2. Sample to be collected only if non-dedicated sampling equipment is used.</p> <p>3. Estimate based on 5 sampling days</p> <p>Key:</p> <p>Bkgd = Background</p> <p>MS/MSD = Matrix Spike/Matrix Spike Duplicate</p> <p>CRQL = Contract-Required Quantitation limit.</p> <p>Dup = Duplicate</p> <p>QA/QC = Quality assurance/quality control</p> <p>Sr = Strontium</p>									

TABLE 1 - 12/28/11
FIELD AND QC SAMPLING SUMMARY
DIMOCK RESIDENTIAL GROUNDWATER SITE
DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA

EPA Region 2 Lab

Parameter/Method	Matrix	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not
				Dup	Trip ¹	Rinsate ^{1,2}	Field ¹	MS/MSD	
Methylene Blue Active Substances (MBAS) (SM 5540C)	drinking	60	0	6	0	0	5	0	71
Notes:				Key:					
1. This QA sample will be an aqueous matrix.				Bkgd = Background			QA/QC = Quality assurance/quality control		
2. Sample to be collected only if non-dedicated sampling equipment is used.				MS/MSD = Matrix Spike/Matrix Spike Duplicate			Sr = Strontium		
3. Estimate based on 5 sampling days				CRQL = Contract-Required Quantitation limit.					
				Dup = Duplicate					

Contract No. EP-53-10-14

DIM0187423

DIM0187427

TABLE 1 - 12/28/11
FIELD AND QC SAMPLING SUMMARY
DIMOCK RESIDENTIAL GROUNDWATER SITE
DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA

Isotech Lab

Parameter/Method	Matrix	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD) ¹
				Dup	Trip ¹ Blanks	Rinsate ^{1,2} Blanks	Field ⁴ Blanks	MS/MSD	
d ¹³ C and d ² H of methane (isotech)	drinking water	10	0	0	0	0	0	0	10
d ¹³ C of inorganic carbon (isotech)	drinking water	10	0	0	0	0	0	0	10
Stable isotopes of water (O,H) (isotech)	drinking water	10	0	0	0	0	0	0	10
Complete compositional analysis of headspace gas (isotech)	drinking	10	0	0	0	0	0	0	10
Diss. gases methane, ethane, ethene (isotech)	drinking	10	0	0	0	0	0	0	10
Notes:				Key:					
1. This QA sample will be an aqueous matrix.				Bkgd = Background			QA/QC = Quality assurance/quality control		
2. Sample to be collected only if non-dedicated sampling equipment is used.				MS/MSD = Matrix Spike/Matrix Spike Duplicate			Sr = Strontium		
3. Estimate based on 5 sampling days				CRQL = Contract-Required Quantitation limit.					
				Dup = Duplicate					

TABLE 1 - 12/28/11

FIELD AND QC SAMPLING SUMMARY
DIMOCK RESIDENTIAL GROUNDWATER SITE
DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA

NAREL Lab

Parameter/Method	Matrix	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD) ¹
				Dup	Trip ¹ Blanks	Rinsate ^{1,2} Blanks	Field ¹ Blanks	MS/MSD	
Gamma Spec (K-40, Ra-226, Ra-228, Th-232, Th-234, U-234, U-235, U-238) (901.1)	drinking	60	0	6	0	0	5	0	71
Ra-226 (903.1)	drinking	60	0	6	0	0	5	0	71
Ra-228 (904.0)	drinking	60	0	6	0	0	5	0	71
Gross Alpha/Beta (900.0)	drinking	60	0	6	0	0	5	0	71
Notes: 1. This QA sample will be an aqueous matrix. 2. Sample to be collected only if non-dedicated sampling equipment is used. 3. Estimate based on 5 sampling days									
Key: Bkgd = Background MS/MSD = Matrix Spike/Matrix Spike Duplicate CRQL = Contract-Required Quantitation limit. Dup = Duplicate									
QA/QC = Quality assurance/quality control Sr = Strontium									

Contract No. EP-53-10-14

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TABLE 1 - 12/28/11

FIELD AND QC SAMPLING SUMMARY

DIMOCK RESIDENTIAL GROUNDWATER SITE
DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA

TechLaw Pace Lab

Parameter/Method	Matrix	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD) ³
				Dup	Trip ¹ Blanks	Rinsate ^{1,2} Blanks	Field ¹ Blanks	MS/MSD	
Bacteria (total coliform, HPC)	drinking water	60	0	6	0	0	5	0	71
Turbidity, Nephelometric (180.1) (Field measurement)	drinking water	60	0	6	0	0	5	0	71
<p>Notes:</p> <p>1. This QA sample will be an aqueous matrix.</p> <p>2. Sample to be collected only if non-dedicated sampling equipment is used.</p> <p>3. Estimate based on 5 sampling days</p> <p>Key:</p> <p>Bkgd = Background</p> <p>MS/MSD = Matrix Spike/Matrix Spike Duplicate</p> <p>CRQL = Contract-Required Quantitation limit.</p> <p>Dup = Duplicate</p> <p>QA/QC = Quality assurance/quality control</p> <p>Sr = Strontium</p>									